Journal of Intelligent and Robotic Systems **9** (1994)

Contents of Volume 9

Volume 9 Nos. 1&2 February 1994

Special Issue on

NUMERICAL AND COMPUTATIONAL ASPECTS OF ROBOT KINEMATICS, DYNAMICS AND CONTROL

Edited by
C. A. BALAFOUTIS and R. V. PATEL

CONSTANTINOS A. BALAFOUTIS and RAJNIKANT V. PATEL / Guest Editorial 1

MURAT TANDIRCI, JORGE ANGELES, and JOHN DARCOVICH / On Rotation Representations in Computational Robot Kinematics 5

IAN D. WALKER and JOSEPH R. CAVALLARO / Parallel VLSI Architectures for Real-Time Kinematics of Redundant Robots 25

C. A. BALAFOUTIS / A Survey of Efficient Computational Methods for Manipulator Inverse Dynamics 45

AMIR FIJANY and ROBERT E. SCHEID / Fast Parallel Preconditioned Conjugate Gradient Algorithms for Robot Manipulator Dynamics Simulation 73

N. KIRCANSKI, R. HUI, K. B. SHIMOGA, and A. A. GOLDENBERG / Real-Time Computational Aspects of Multiple Manipulator Systems 101

RICHARD VOLPE and PRADEEP KHOSLA / Computational Considerations in the Implementation of Force Control Strategies 121

R. COLBAUGH, K. GLASS, and H. SERAJI / Direct Adaptive Control of Robotic Systems 149

Book Reviews:

Miomir Vukobratovic, *Applied Dynamics of Manipulation Robots* (VESNA ÇVETHOVIC-ZIVKOVIC and SPYROS TZAFESTAS) 179

James H. Graham (ed), *Safety, Reliability and Human Factors in Robotic Systems* (GUNA SEETHARAMAN) 181

A. Meystel, *Autonomous Mobile Robots: Vehicles with Cognitive Control* (SPYROS TZAFESTAS) 182

Glenn A. Kramer, *Solving Geometric Constraint Systems: A Case Study in Kinematics* (SPYROS TZAFESTAS) 183

Howard Rosenbrock, *Machines with a Purpose* (SPYROS TZAFESTAS) 184

Calendar of Events 187

Volume 9 No. 3 March 1994

SUNG-DO CHI and BERNARD P. ZEIGLER / Hierarchical Model-Based Diagnosis for High Autonomy Systems 193

FEI-YUE WANG, MICHAEL MITTMANN, and GEORGE N. SARIDIS / Coordination Specification for CIRSSE Robotic Platform System Using Petri Net Transducers 209

DUŠKO KATIĆ and MIOMIR VUKOBRATOVIĆ / Contribution to the Indirect Decentralized Adaptive Control of Manipulation Robots 235

JIN-OH KIM, MATTHEW WAYNE GERTZ, and PRADEEP K. KHOSLA / Exploiting Redundancy to Reduce Impact Force 273

M. Y. AMIRAT, J. PONTNAU, and F. ARTIGUE / A Three-Dimensional Measurement System for Robot Applications 291

S. CORBEL, A. L. ALLANIC, P. SCHAEFFER, and J. C. ANDRE / Computer-Aided Manufacture of Three-Dimensional Objects by Laser Space-Resolved Photopolymerization 301

Name Index to Volume 9 313

Key Word Index to Volume 9 315